

ABSTRACT OF THE DISCLOSURE

An optical source generator for wavelength-division-multiplexing optical
5 communication systems includes a wavelength-division multiplexer/demultiplexer,
optical amplifiers, and wavelength-dependent reflectors such as optical fiber-Bragg
gratings or wavelength-independent reflectors such as mirrors, so as to form laser
resonant cavities. Lasing of the optical fibers therefore generates spontaneously emitted
lights. Further, the optical source generator controls each reflectance of the respective
10 wavelength-dependent or independent reflectors so that lights amplified within the laser
resonant cavities can be used as multi-wavelength optical sources or independent optical
sources.